

CLAIMS

1. An apparatus for carrying out an electrolytic process on a halogenide compound, in which apparatus several electrolytic cells are electrically connected in series, which electrolysis cells each comprise a cell element, provided with underlying supply pipes for supplying electrolyte and with collecting discharge pipes disposed near the upper side thereof for discharging electrolyte and the gases formed during the electrolytic process, a cathode compartment including a cathode and an anode compartment including an anode, and a diaphragm or semi-permeable membrane, in which the electrolytic cells have been pressed together between two end plates with a certain bias, so that each anode compartment and each cathode compartment is constructed as one unit together with the supply pipes and the collecting discharge pipes, characterized in that the assembly of end plates and electrolytic cells is present in a container which contains a liquid, heat-transferring medium, with an electrically non-conducting cell partition being present between the cathode and the anode, which cell partition, in addition to supply pipes and collecting discharge pipes corresponding to the cell element, comprises on or more through channels for the passage therethrough of the heat-transferring medium that is present in the container, which channels have been formed in the cell partition in such a manner that the heat-transferring medium that is present in the channels is not under an electric voltage, and that no liquid contact takes place between the electrolyte that is present in the electrolytic cells and the heat-transferring medium that is present in the container, outside the electrolytic cells.

2. An apparatus according to claim 1, characterized in that a reversing element is disposed adjacently to the electrolytic cell package, which reversing element is provided with underlying supply pipes for supplying electrolyte to the adjacent electrolytic cell package, and

furthermore with collecting discharge pipes disposed near the upper side thereof for discharging electrolyte and the gases formed during the electrolytic process in the adjacent electrolytic cell package, for effecting the return of electrolyte from the collecting discharge pipes to the supply pipes, which reversing element is provided with one or more through channels for the passage therethrough of the heat-transferring medium, which channels are designed in such a manner that no liquid contact takes place between the electrolyte that is present in the electrolytic cells and the heat transferring medium that is present in the container, outside the electrolytic cells.

3. An apparatus according to any one or more of the preceding claims, characterized in that the electrically non-conducting cell partition is provided with means for electrically interconnecting the various adjacent electrodes without any exchange of electrolyte between the two electrolytic cells via said connection or electrolytic corrosion between the various electrode metals taking place.

4. An apparatus according to any one or more of the preceding claims, characterized in that the electrolytes are discharged from the apparatus via a pipe arranged in the heat transferring medium in the container, so as to transfer the thermal energy contained in the electrolytes to the heat-transferring medium.